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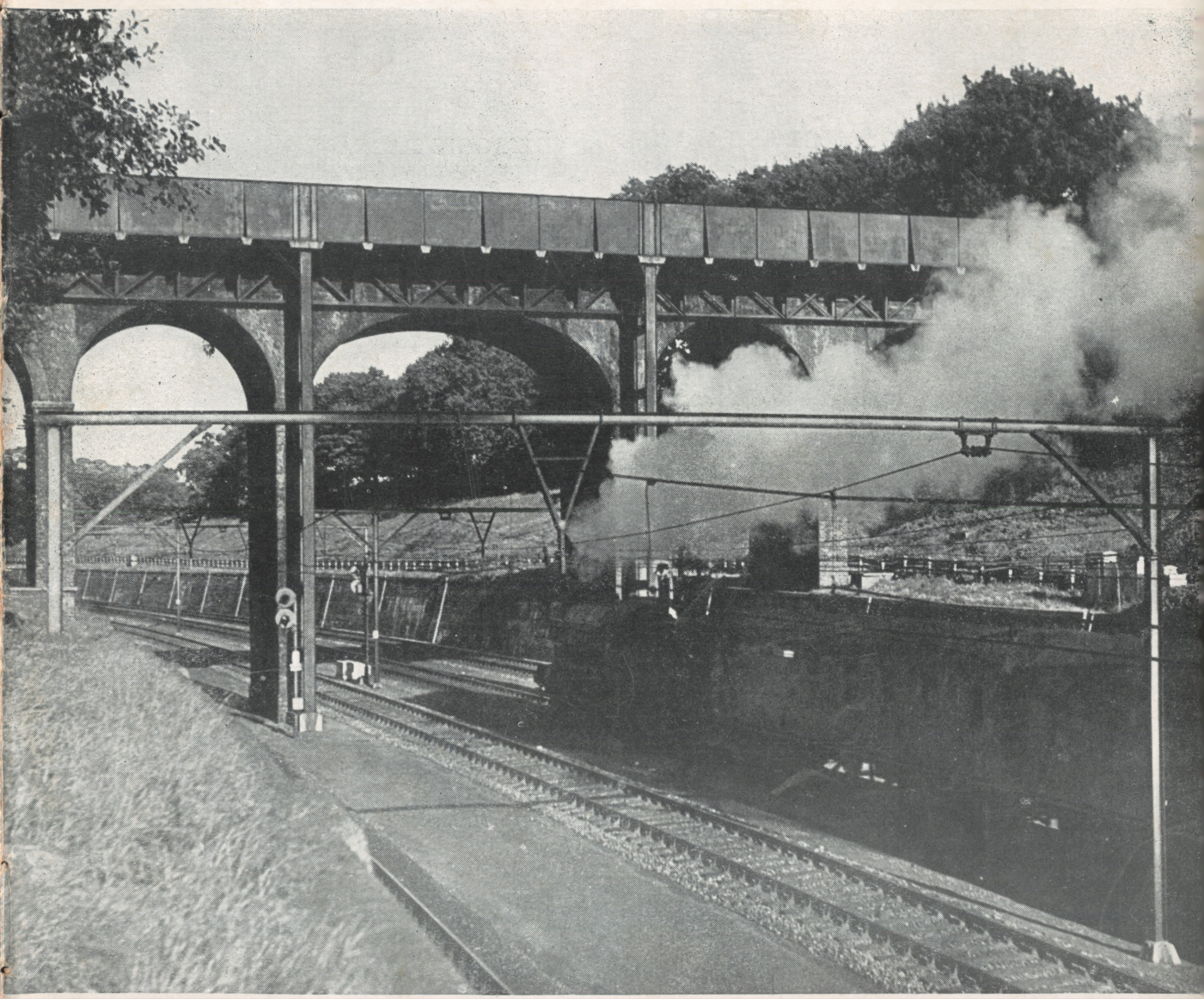
# The MODEL RAILWAY NEWS

VOL. 29 No. 346 OCTOBER 1953



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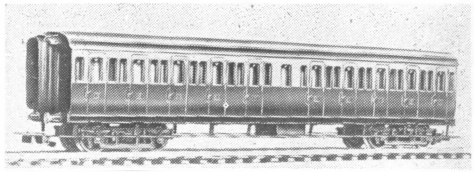

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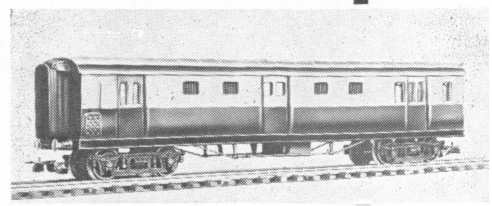

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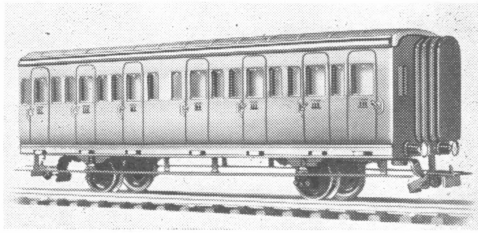

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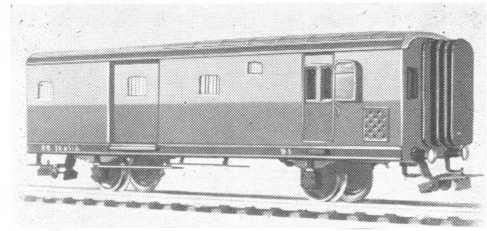

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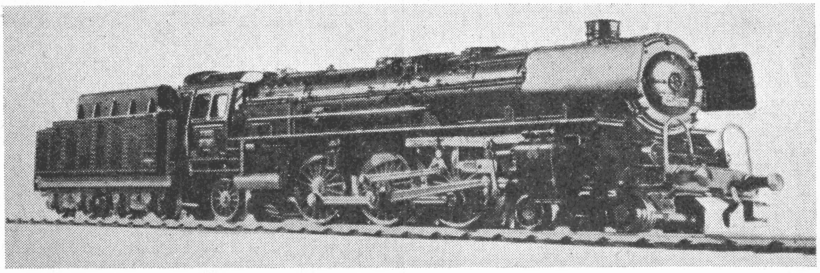

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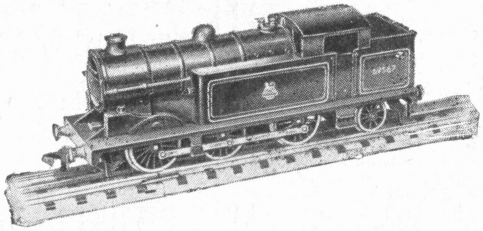

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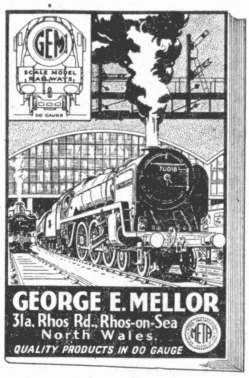


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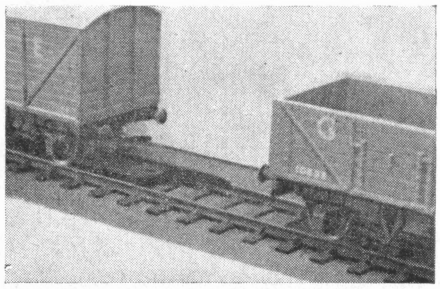

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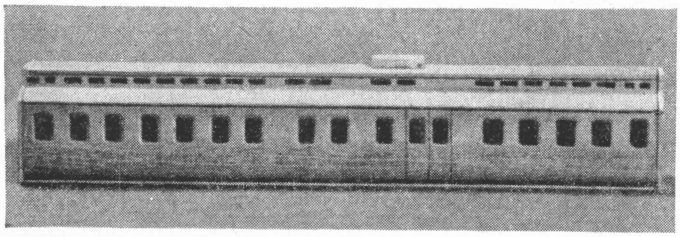

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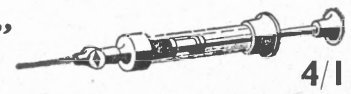

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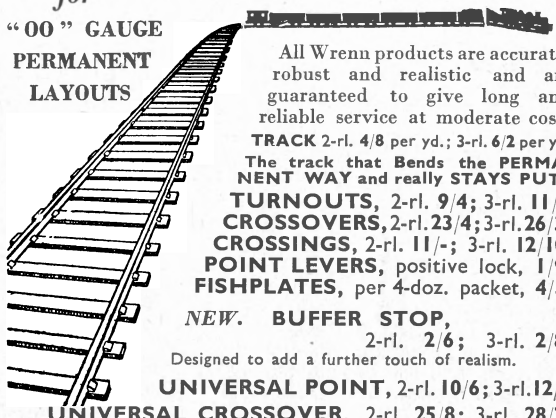

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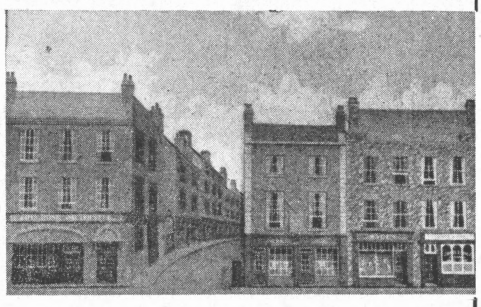

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Vol. 29

No. 346

October, 1953

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### COVER PICTURE

Brentwood bank must be the most photographed spot on the Great Eastern. Pre-grouping collectors know well the familiar picture, taken from the other side of this bridge, of a "Claud," resplendent in blue and shining metal, climbing steadily towards East Anglia in the days when only two tracks ran through the cutting. Our more recent picture, taken from a new angle, shows a Gresley 2-6-0 on a semi-fast train. Nowadays, the retaining walls combine with the sloping banks above to make room for the two extra tracks; a pleasant arrangement worth some thought by model railway civil engineers.

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The Editor invites correspondence and original contributions on all aspects of model railways in the smaller scales and on suitable prototype subjects which should be addressed to him at 19-20, Noel Street, London, W.1. Telephone: GERrard 8811.

# The MODEL RAILWAY NEWS

19-20 NOEL STREET, LONDON, W.1.

THERE seems to be a minority amongst us who loudly declaim that all model railways should, from now on, be built to fine-scale standards, and that coarse-scale wheels and track should no longer be tolerated by any serious model railway enthusiast who considers himself to be advanced beyond the "toy" stage. We wonder if these declaimers are capable of visualising the sort of situation that would arise if their ideas were generally adopted; so we will, first, call attention to a few relevant facts regarding the coarse-scale standards.

The British Railway Modelling Standards Bureau, in its wisdom and after due consideration of the problems which arise in meeting the desires of everyone interested in model railways, decided to specify coarse-scale, as well as fine-scale dimensions for wheels and track, wherever such specifications were thought to be necessary. That, in itself, should forestall criticism, because the decision, after all, was governed by a complete understanding of our hobby and the acceptance of what is really an axiomatic truth !

To prohibit the use of coarse-scale standards would deny our hobby to something over eighty per cent. of those people who *desire to own* model railways; it would put out of action at least seventy per cent. of *existing* model railways, and, for these reasons alone, it would put the manufacturers out of business, so far as model railway products are concerned. The reasons for these results *ought* not to be very difficult to understand or to realise.

Most model railway enthusiasts begin with a layout on the nursery floor, where there is usually a carpet of some sort; and the man who succeeds in making fine-scale track and wheels give satisfactory performance, even in "O"-gauge, in such circumstances, will probably never be born. Later in the lives of enthusiasts, the railway is elevated, in more ways than one, to a baseboard of some kind, and in the great majority of cases, space for the layout becomes a vital problem. Are all those who are unable to find the necessary space in which to operate a fine-scale layout to be denied the joys of our hobby entirely ? The idea cannot be tolerated !

For just so long as model railways continue to attract enthusiasts of all ages from 6 to 60, must coarse-scale standards remain to meet the needs of the majority. Our critics should realise that the problem is not—repeat *not*—essentially British; it is found wherever the lure of model railways exists, and for exactly the same reasons wherever it is met. Therefore, the makers of model railway products will continue to favour coarse-scale standards; the dealers will continue to do their best business in the sale and distribution of such products, and the great majority of enthusiasts will be attracted to our hobby. And that, after all, is what most of us desire.

The enjoyment to be got out of model railways depends upon the outlook of the individual owners. Some prefer to see a scale model train hauled by a scale model locomotive on scale track; and this is impossible where the available space will not permit of anything over a scale two chains radius for curves. It is also impossible unless the track can be accurately and securely laid upon proper foundations.

At the other extreme, there are people whose chief aim is to operate railway traffic in miniature, and this does not necessarily involve having everything exactly to scale. Between the two extremes there are countless variations, for which fine-scale and coarse-scale standards both cater to a greater or less degree.

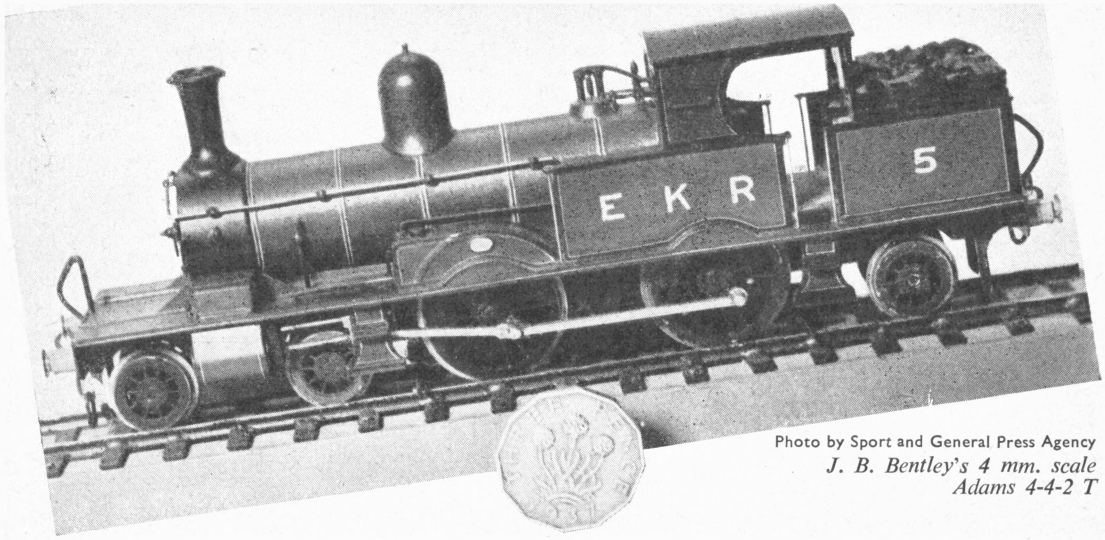



Photo by Sport and General Press Agency
*J. B. Bentley's 4 mm. scale Adams 4-4-2 T*

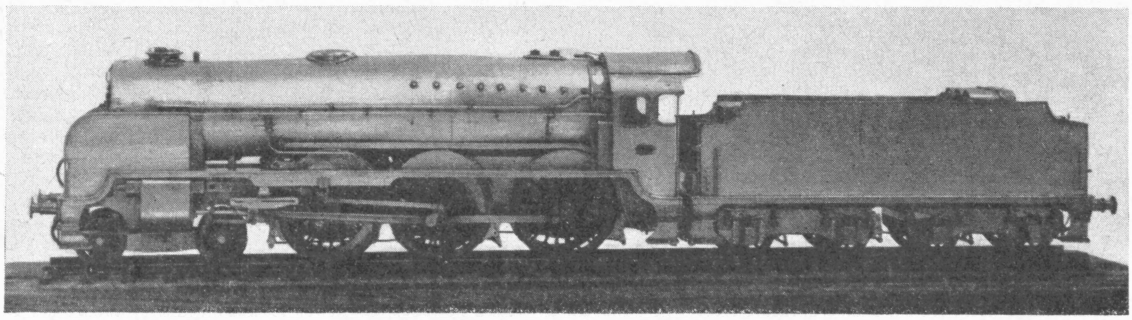
# RAILWAY MODELS AT

IT seems that the "M.E." Exhibition has an attraction for model railway enthusiasts; at any rate, its popularity among readers of the MODEL RAILWAY NEWS has grown considerably in recent years, until, this year, the purely "model railway" exhibits outnumbered the live-steam locomotives by more than 3 to 1. The exhibits were divided into two classes, "B" for the locomotives and "C" for rolling-stock and accessories; curiously enough, the two classes contained exactly the same number of exhibits.

Undoubtedly, the best in Class "B" was the 18-mm. gauge Great Eastern Railway 0-6-0 tank locomotive by Mr. R. J. B. King of Strood; it won a "V.H.C." Diploma, well merited on account of the perfection of external details and appearance. For once, the colour—G.E.R. blue—was correct, which is scarcely surprising since it came, we understand, from Stratford works.

An "H.C." Diploma was awarded to Mr. E. A. Hobbis of Birmingham for his 4-mm. scale G.W.R. 1400-class 0-4-2 tank engine. This model exhibits such nice, clean work and careful attention to details that the faults in it were rather surprising. The dome is not high enough, while the chimney, which is also not high enough, has a lip of too small a diameter above the top flange. However, as this model, which, incidentally, is for 18-mm. gauge, is a first attempt at modelling, it is a great credit to Mr. Hobbis; seldom indeed is so excellent a model produced at a first attempt!

Another surprise was the 4-mm. scale G.W.R. "Modified Hall," No. 7902, by Mr. K. Northwood of Edinburgh. This was a nice piece of work, the main interest of which was the use of an American Pittman DC.71 motor mounted in the tender and transmitting power to the driving wheels by means of a shortened version of the double universal type of square shaft used on Graham Farish locomotives. It was cleverly arranged and would seem to work very well. The general finish was good and the degree of realism excellent; some indication of the care taken to achieve accuracy is evident from the fact that Mr. Northwood found an error in the drawings he was using, when comparing them with photographs of the prototype; fortunately, the discovery was made in time to prevent the same error appearing in the model! A "C" Diploma was



*D. A. William's 18 mm. gauge version of "Lord Howe"*

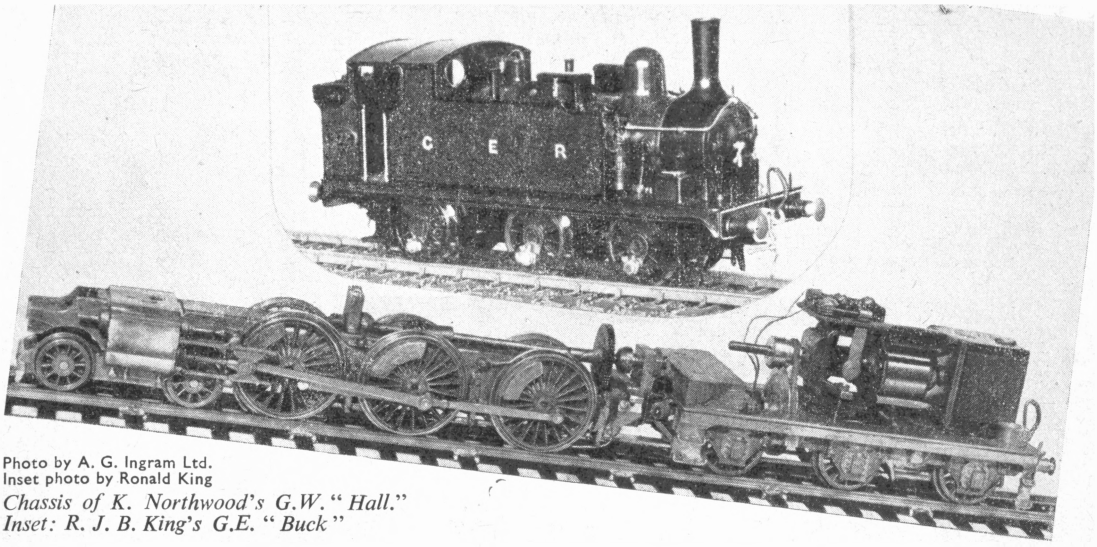



Photo by A. G. Ingram Ltd.
Inset photo by Ronald King
*Chassis of K. Northwood's G.W. "Hall."*
*Inset: R. J. B. King's G.E. "Buck"*

# THE "M.E." EXHIBITION

awarded to Mr. Northwood's interesting exhibit.

There were two runners-up in this class, both of which just missed tying with Mr. Northwood. The "M.R.N." first prize was awarded to Mr. D. A. Williams of Beckenham for his 18-mm. gauge S.R. "Nelson"-class 4-6-0 engine, representing No. 857, *Lord Howe*, when rebuilt with the round-topped firebox. The model is, as yet, not painted, but it is a pleasing piece of work with nice, clean platework and plenty of detail. The very squat dome is a trifle too large in diameter, but this can probably be corrected before the model is finally completed.

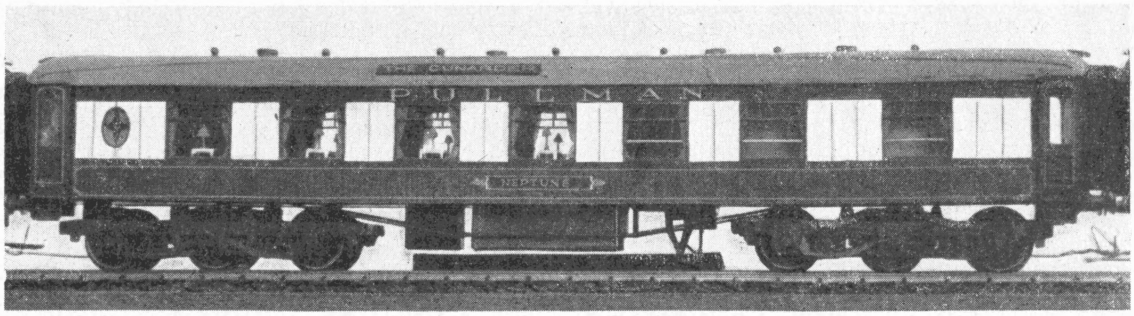
The "M.R.N." second prize went to Mr. J. B. Bentley of Bedford for his 4-mm. scale L.S.W.R. Adams 4-4-2 tank locomotive represented as when running on the East Kent Railway. Here again, was some nice work and close attention to detail; but that very difficult Drummond chimney, in this case, seems to have a slightly top-heavy appearance due, possibly, to the waist being slightly under the true scale diameter.

In Class "C" there were three awards. Mr. F. E. Coles of Leicester won an "H.C." Diploma with his very interesting pair of 5-in. gauge bogies for a passenger-carrying car. Their design was unusual but robust, and they certainly looked as if they would give years of service.

A "C" Diploma was awarded to Mr. R. S. Carter of Horley for his 4-mm. scale B.R. standard 24-ton covered hopper wagon which was remarkable for the realistic representation of the external details of its prototype. By no means an easy model to make, it showed much careful work.

Finally, the "M.R.N." third prize went to Mr. P. A. Willis of Swanley for a 4-mm. scale 4-car Pullman train and S.R. 10-ton passenger luggage van. This did not show anything like the very best work seen in this size; but there was quite a lot of it and it was reasonably well done.

There was nothing outstanding among the model railway exhibits this year, excepting Mr. King's G.E.R. tank locomotive. Perhaps the fact that only ten months had elapsed since the 1952 exhibition left too little time for most people to produce the best work. What there was, however, was interesting and enjoyable, as well as of unusually "equal" quality.




*One of the cars in P. A. Willis' train of Pullmans*

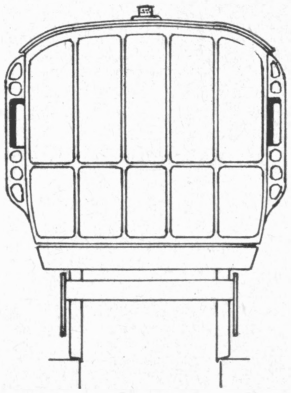
# GREAT WESTERN COACH DRAWINGS

by J. E. D. Binney
(Member, G.W. 4 mm. Circle)

## No. 20. OLD EIGHT WHEELERS WITHOUT CLERESTORY

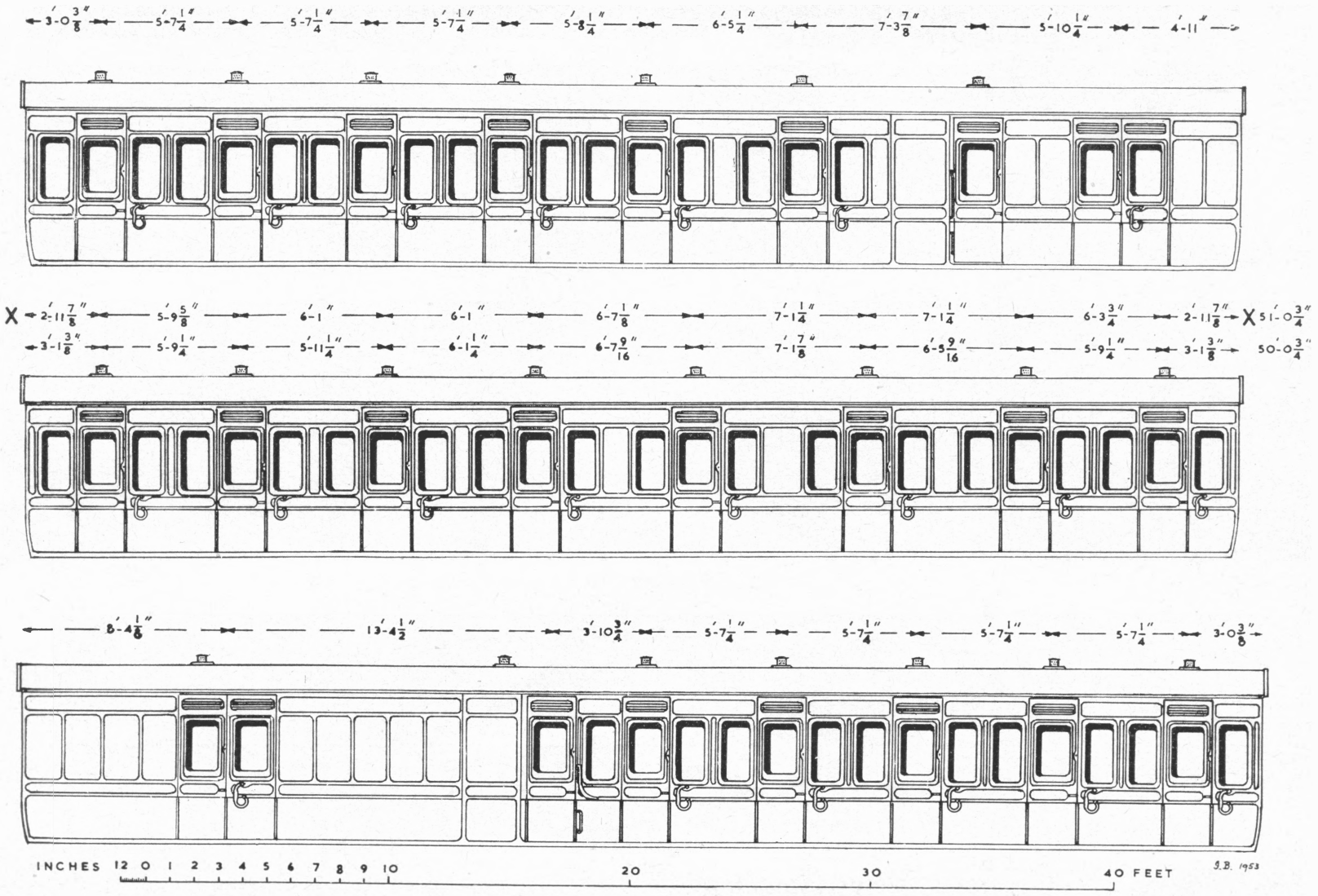
THERE was a limited construction of eight-wheeled coaches without clerestory. Three such designs are illustrated this month, and measurements are given for a fourth. All four were 8 ft. 0¾ in. wide, and ran on the 8 ft. 6 in. bogie with centres 42 ft. 0 in. apart for the 50 ft. 0¾ in. designs, and 43 ft. 0 in. for those 51 ft. 0¾ in. long. The end elevation applies to all of them (with the omission of the wings for the Tri-composites). The contour of the roof was that of a three-centre arch, the large radius being 23 ft. 0 in. to the underside of the roof, and the small radii 2 ft. 9 in. with centres 4 ft. 3 in. apart and 4 ft. 6 in. from the base of the body. The latter figures are approximate, and in modelling or drawing may need slight adjustment. The height of the body was 7 ft. 6 in. Steps and handrails were as shown for the clerestory and illustrated on p. 152 of the July 1953 issue, allowance being made for the greater height of the roof to which the rails were attached. These were fitted at the van end of the two Brake types, and (it is believed) at the left hand end of the Tri-composites as drawn.

In its later years, the G.W.R. built large numbers of steel-panelled Brake Composites, and ran them in pairs. This was a revival of earlier practice, for old photographs show three-centre roof Brake Tri-composites so running, the van ends outermost. The design now illustrated seems to have consisted of six vehicles, Nos. 7248-7253. It was 50 ft. 0¾ in. long, with four Third-class compartments, one Second, and one First. It is not known whether any lost their wings, but can be positively stated that No. 7248 did not. There is reason to believe that the guard's doors opened inwards, probably to avoid possible fouling of the nearest leaf of the double luggage doors. By reason of this inwards opening, the guard's doors had no windguards and the bottom of the door would have been 1 in. above the shell moulding (the latter being 2 in. deep and the floor level 3 in. above the base of the body). Certain other designs are known to have had inwards opening guard's doors, and such always had abnormally shaped and arranged commode handles. The variety fitted to the present design has not so far been identified in any other. The upper handle appears to have been fixed to the side of the wing, projecting horizontally for a short distance, then turning outwards in a small semi-circle on the same plane, before turning downwards vertically. The lower handle was very small, and seems to have been attached to the side of the body. An attempt has been made to draw these handles, but they must be accepted with caution, as the photograph on which



they are based is not very clear. Both guard's doors appear to have been hinged on the side next to the wings, so that the handle of the door on the off-side was on the left-hand side of the door, and not on the right-hand side as was the normal practice. Being inside, the hinges were invisible. The wings and all the doors were exactly opposite to each other on both sides.

The Tri-composites and Brake Thirds appear to have been built for set trains, one of the former being sandwiched in between two of the latter. The Tri-composite illustrated had two Third-class compartments, two Seconds, two Firsts, and then again two Thirds. Four examples were built, Nos. 7169-7172. The lower set of dimensions applies to this design, which was 50 ft. 0¾ in. long. The upper set of figures (marked X) relates to another design which was 51 ft. 0¾ in. long, and had one Third-class compartment, three Seconds, three Firsts, and then again one Third. No. 7173 appears to have been the one and only vehicle of this design. All five


3'-0 3/8"
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5'-7 1/4"
5'-7 1/4"
5'-8 1/4"
6'-5 1/4"
7'-3 7/8"
5'-10 1/4"
4'-11"
X 2'-11 7/8"
5'-9 5/8"
6'-1"
6'-1"
6'-7 1/8"
7'-1 1/4"
7'-1 1/4"
6'-3 3/4"
2'-11 7/8" X 51'-0 3/4"
3'-1 3/8"
5'-9 1/4"
5'-11 1/4"
6'-1 1/4"
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7'-1 7/8"
6'-5 9/16"
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3'-1 3/8" 50'-0 3/4"
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INCHES 12 0 1 2 3 4 5 6 7 8 9 10
20
30
40 FEET
S.B. 1953

were, about thirty years ago, de-classed to eight-compartment Thirds and renumbered ; the 50 ft. 0¾ in. vehicles becoming Nos. 3274-6 and 3387, and No. 7173 becoming No. 3390.

The Brake Thirds were 51 ft. 0¾ in. long, and ten were built, Nos. 3331-3340. The guard's doors were to the right of the wing on each side, so that on the off-side the centre of the guard's door was 6 ft. 6⅜ in. from the centre of the nearest compartment, against 3 ft. 10¾ in. on the near-side. These Brake Thirds and Thirds were latterly used in pairs for auto working, the celebrated " Marlow Donkey " being an example. At the van end of the Brake Thirds a driving compartment was provided, partitioned off from the luggage space and fitted with a door each side. There was a small panel between the end of the body and this door, leaving two panels between the latter and the double luggage doors. A narrow central window, flanked by two wider ones, was inserted in the end wall. It is believed that all except Nos. 3333/4 were thus converted for auto work ; and No. 3331 is the only example reported to have lost its wings.

The drawings now published complete a selection covering the three main groups of design current at the turn of the century ; clerestory with and without corridor, and three-centre roof without corridor. To cover all traceable eight-wheeled designs built before 1905 might require, perhaps 150 further drawings ; but sufficient is now available for modelling complete trains of the three main groups just referred to.

# WITH THE CLUBS

### The Model Railway Club

October 1st is an L.N.E.R. track night, and on the 15th Mr. G. P. Keen, for 29 years chairman of the club and now it's president, will lecture on his " Reminiscences.'

These meetings commence at 7.30 p.m. in the Ambulance Room, Waterloo Station, London, S.E.1.

Sunday, October 4th, marks the date of the Third Birmingham Conference arranged jointly by the Manchester Society and this club, to take place at the Imperial Hotel, Birmingham. A large gathering of modellers and a display of some 100 models is expected. Lunch accommodation is now fully engaged, but no interested modeller will be turned away from the meeting which should start about 2.0 p.m.

Particulars of the club may be obtained from the Hon. Secretary: D. A. BOREHAM, 34, Shrewsbury Road, London, N.W.10.

### The Enthusiasts' Club

The Western Region railcar tour, originally planned for September 6th, has now been postponed until a Sunday in October. The route will be from Reading General, to Newbury, Lambourn Valley branch, Newbury, Didcot, Kennington Junction, Thame, Princes Risborough, High Wycombe, Bourne End, Maidenhead and Reading. Negotiations are still in progress with regard to running between Farnborough (S.R. main line) and Reading via Ascot. Details will be sent to all interested (when available) if a stamped addressed envelope is sent with the application.

Hon. Secretary : H. DAVIES, " Lynmouth," Sycamore Road, Farnborough, Hants.

### West Wickham Model Railway Club

The extension and conversion to 2-rail of the " OO " gauge layout is progressing and track nights are being held regularly. A programme of visits, etc., is being prepared, and the following items of interest have been arranged :

October 5th.—Jumble Sale.
November 9th.—Film Show.
December 7th.—Talks—" Steam " by D. R. Scott. " Scenery of S.E. England " by H. H. Powell.

Enthusiasts living in the district should contact the hon. secretary, and visitors are always welcome at the club headquarters, Balaam's Garage, Corkscrew Hill, West Wickham, Kent, on Monday evenings.

Hon. Secretary : H. H. POWELL, 27, Glebe Way, West Wickham, Kent.

### The Bristol Railway Circle

Fixture for October is as follows :

Saturday, October 31st, 7.30 p.m. Annual General Meeting. Agenda will include reports from the executive officers, election of officers, and any other business.

Tuesdays and Saturdays are Club Nights.

Hon. Secretary : J. F. BURRELL, 80, Longmead Avenue, Bristol, 7.

### Cambridge and District Model Engineering Society

The Society has now almost passed over the inevitable summer period of decline and a full programme is being arranged for the coming season.

The first and most important function will be the biennial model engineering exhibition held in conjunction with the Cambridge Model Aircraft Society, Amateur Radio Society and other similar clubs. This is to be held in the Corn Exchange, Cambridge, from Monday, October 19th, to Friday, October 23rd.

Members have been preparing for this event for some time and many first class models should be on show.

An innovation at this exhibition, to encourage the " domestic authorities " will be a stand exhibiting handicraft articles made by wives (actual or prospective) and other female members of model engineering households—after all a pullover, made by a wife to keep her husband warm in his somewhat chilly workshop, although it is not an actual tool, can be classed, at least, as a workshop amenity.

Any model engineer finding himself in the vicinity of Cambridge during the period of the exhibition should make a point of visiting our show and we can promise that we can produce something to satisfy most enthusiasts.

Entry forms can be obtained from the Hon. Secretary : J. W. ATKIN, 16, Ross Street, Mill Road, Cambridge.

### Leicester Model Railway Group

The next meeting to be held in the Hall of the Church of the Martyrs, Westcotes Drive, Leicester, at 7.30 p.m. on Thursday, October 15th, 1953, will be an auction sale, so please bring along all your unwanted models, spares and books, not forgetting the cash to purchase your " bargains." Remember that your " junk box " may contain the very items wanted by other members.

Younger readers may be interested to learn that we are opening membership to 14-year-olds.

The fees for junior members will be 2s. 6d. per half-year, i.e., half the normal subscription. Anyone interested should contact the Hon. Secretary : E. P. M. HAIRS, 29, Park Hill Drive, Leicester.

### Historical Model Railway Society

Mr. H. F. Hilton will give an illustrated talk " More About the London & Blackwall Railway " to the Historical Model Railway Society at 7.0 p.m. on October 19th at the headquarters of the Stephenson Locomotive Society, 32, Russell Road, W.14.

Hon. Secretary : A. P. HANCOX, 30, Gillian Park Road, Sutton, Surrey.

### Birmingham Model Railway Club

All meetings at St. Thomas's Secondary Modern School, Granville Street, commencing at 6.45 p.m.

October 8th. Thursday : Track Night.
,, 14th. Wednesday : Track Night.
,, 22nd. Thursday : Film Show by Mr. A. Lee (Electricity—Its Form and Use).
,, 28th. Wednesday : Loco building. Part 2. Baseplates and Superstructures, by Mr. J. H. Moss (Jnr.).

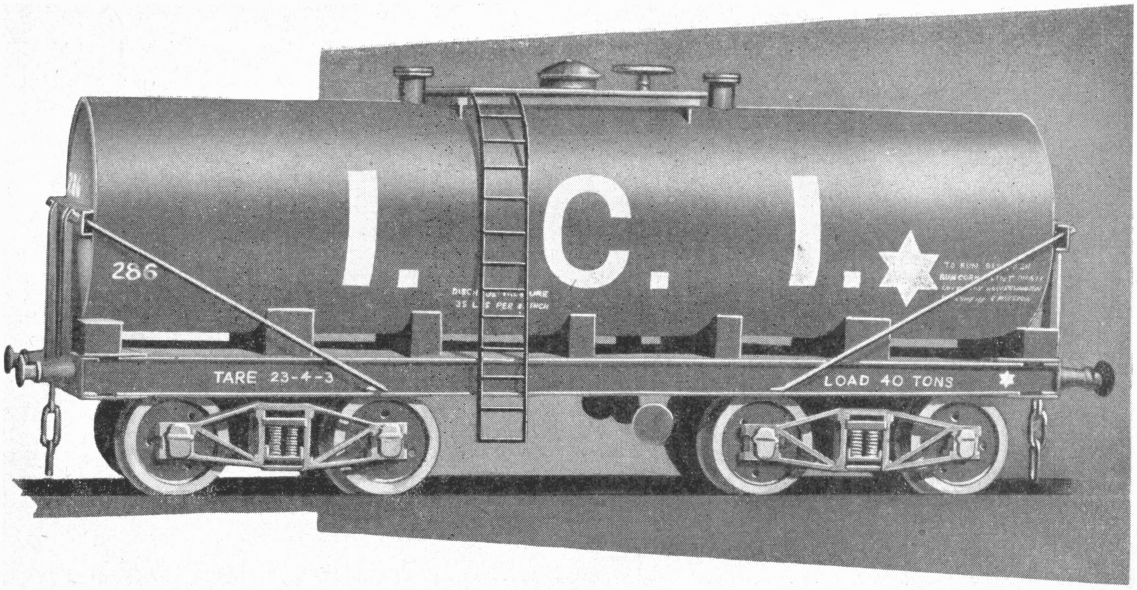
During the forthcoming session, " Track Nights " will combine " Exhibition Track Construction " and " Test Track Operation." Members are invited to bring their own models finished or unfinished, on any of these nights, for demonstration running and general discussion as usual. With the object of accelerating its completion, the exhibition track will also be available for volunteers to work on, so no one need be short of something to do.

Hon. Secretary : JOSEPH H. MOSS, 163, Stonor Road, Hall Green, Birmingham 28.

### Tramway and Light Railway Society

We are anxious to form a Tramway Modelling Group in the Birmingham area and would welcome your co-operation in the form of a mention in your " With The Clubs " page. The ultimate intention is to hold regular meetings and to construct an exhibition tramway layout and possibly at some later date the organisation of a midlands tramway modelling exhibition. I should be pleased to hear from anyone who is interested.

Birmingham Area Secretary : D. F. FELTON, 177, Fieldhouse Road, South Yardley, Birmingham 25.




# I.C.I. TANK CAR

**Brighten up your goods train with this red and white tank : article and drawings by D. S. Clibborn**

A NUMBER of 40-ton bogie tank cars of the type illustrated above were constructed some years ago by Messrs. R. Y. Pickering & Co. of Wishaw for the transport of caustic liquors. These tank cars were then of a comparatively new type and have mild steel tanks 6 ft. 8 in. internal diameter by 29 ft. 8 in. long to the dished ends and which, when lagged and sheeted, have an external diameter of 7 ft. 1 in. They are fitted for bottom discharge via a plug valve in the underside of the tank, controlled by a hand-wheel at the top platform and by two plug cocks, one on each side of the tee-piece (which also forms the plug valve seat) and to the outside of these plug cocks are two extension pipes of 4 in. bore. As an additional precaution, blank flanges are bolted to the extension pipe flanged ends.

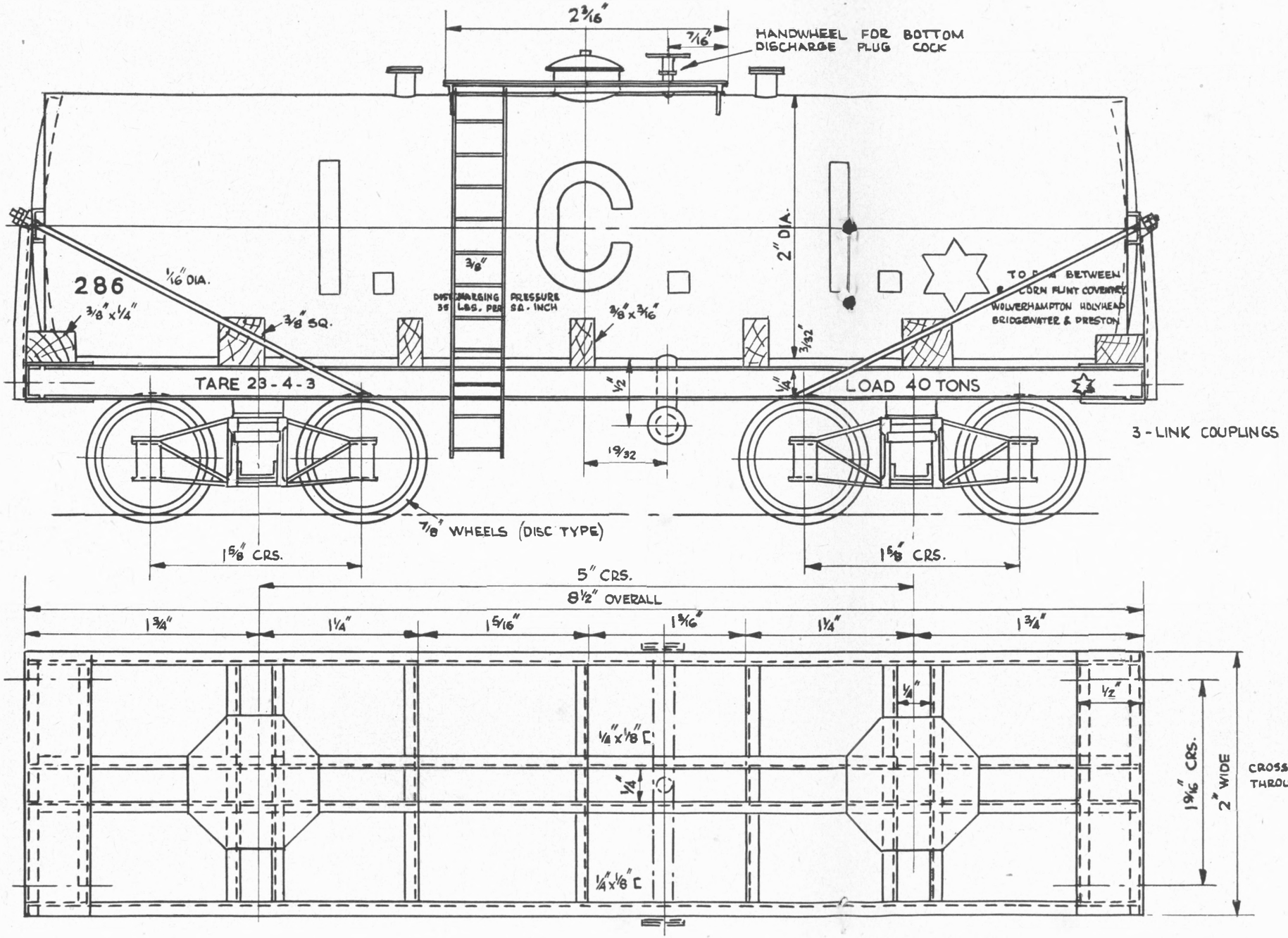
A 4 in. bore dip pipe is fitted on either side of the top platform to allow of top discharge by the use of compressed air which can be introduced through a small plug cock on the top of the manhole cover. Each dip pipe has a blank flange bolted to the top while the hinged manhole cover has a sealing gasket ring and is secured down by swing bolts to provide rapid access for filling or inspection. Steam heating pipes are installed in the tank.

The main frames are constructed from steel channels and plates riveted together, the tank being laid on pitch pine blocks. The bogies have a 6 ft. wheelbase spaced at 17 ft. 10 in. centres with 3 ft. 1½ in. diameter disc wheels and each bogie has a "Little Giant" hand-brake fitted to it. Total length over headstocks is 30 ft. 10 in.; over buffers 33 ft. 10 in.; frame width 7 ft. 1¼ in. and extreme width over ladders 7 ft. 10 in.

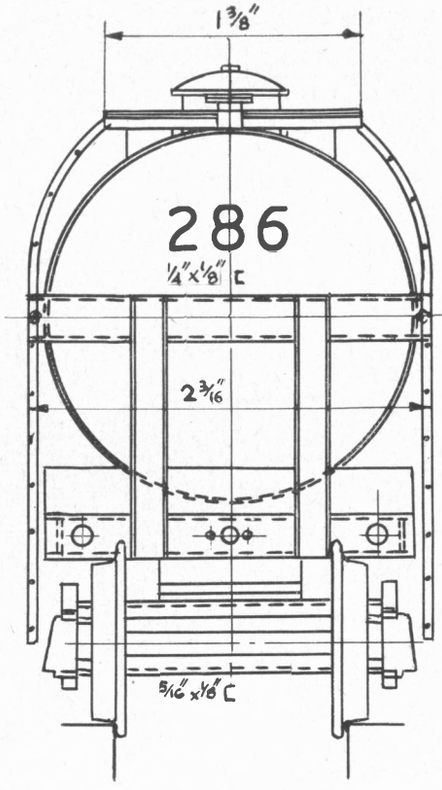
With bright red tank, white lettering, black frames and bogies these cars look very handsome and the urge to make a model of one was strong. The work was started by making a small drawing based on the original arrangement drawing, and by making a pattern for the bogie side frames. A number of brass castings was obtained from Mills Bros. These were cleaned up with a file and the two bogies completed using Bassett-Lowke cast-iron wheels.

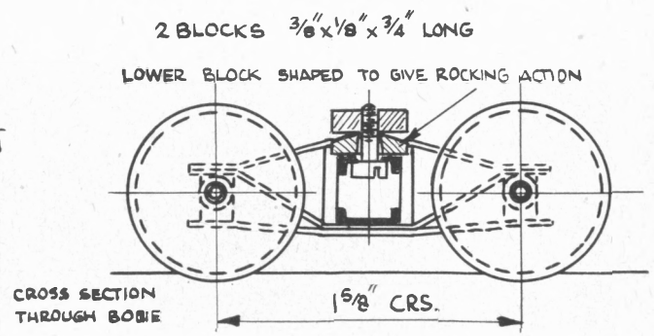
Work on the main frame came next using tinplate gussets, brass channel and brass angle, all soldered together. Buffers are of brass oval type with curved faces from Bond's and the usual three link chain spring couplings are used.

The tank and manhole are made from beech. The outlet pipes and dip pipes are of hardwood. the flanges being made up from copper washers




3-LINK COUPLINGS




**BOGIE TANK CAR FOR CAUSTIC LIQUIDS. FULL SIZE FOR 7 MM. SCALE**

soldered to brass screws and filed off smooth. The top platform is also made from tinplate and brass angle, the vertical support plates being soldered to panel pins driven into the wood of the tank. To obtain the impression of the butting of the tank lagging over the end cross-bracing channel, the domed ends of the model tank were cut across and chiselled out to fit snugly over the brass channel used for the model. The diagonal end stays are of $\frac{1}{16}$-in. Sifbronze rod screwed 10 B.A. at the ends to receive the nuts. The lower ends are soldered to the main frames.

Painting particulars are as follows :—

Tanks: Post Office red.

Timber blocks, main frames, platform ladders, end bracing, bogies and wheels: black.

Lettering, wheel rims and brake handles: white.

The numbers of the vehicles made by Pickerings range from 221 to 290, but the numbering was not consecutive and 41 cars in all were built at this time. In place of the full wording "Imperial Chemical Industries," the model has only the letters "I.C.I." as on the cars of the same design made by Messrs. Hurst, Nelson & Co. of Motherwell.

*Readers write on*

# COMMERCIAL

DEAR SIR,—In response to many requests, here are photographs, sketches and data of the Pittman DC. 60 and 71 motors and also a photograph and sketch of the small Lindsay motor.

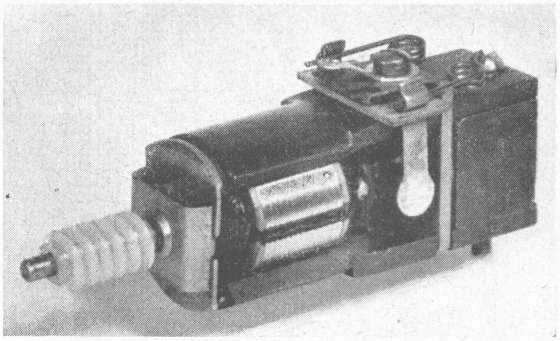
Since my letter published in the December, 1952 MODEL RAILWAY NEWS, many correspondents have expressed various degrees of dissatisfaction with currently available British motors, while others seem to be quite content with the performance they can obtain from them.

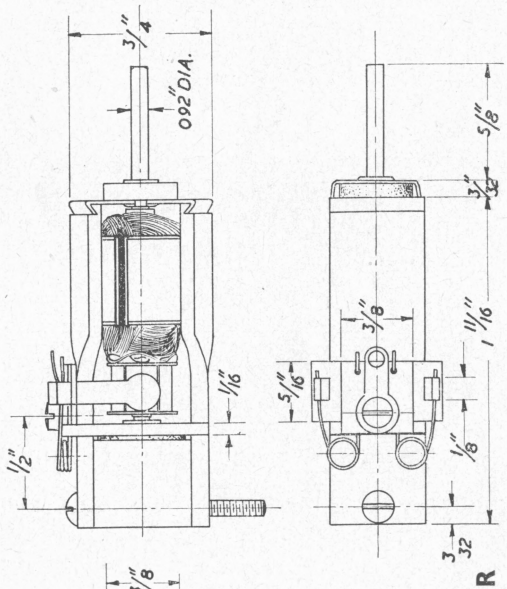
They argue that their engines can haul the longest trains that they can justifiably run, and they cannot conceive any advantage in having more powerful motors. These are the people who don't know what they are missing !

If the maximum power output was the only criterion of a satisfactory motor, there would in fact be little to complain of with regard to British motors. Nearly all of them, when running at high armature revs., can produce enough power to haul really big loads, *when suitably geared down.* This, however, means noise, wear, lubrication difficulties, and a somewhat restricted speed range.

Unfortunately, the reference in my letter to a 70 wagon train has misled many good folk into believing that my advocacy of the Pittman motors is based on my appreciation of their maximum power output. This is not the case, and a further explanation is necessary to put the matter right.

The point that I wished to stress was that, with properly designed motors, locomotives can be built that are capable of hauling trains at *slow speeds* up gradients, round sharp curves, through crossovers and complex P. & C., with just that ' 'slow, relentless movement so apparent in full size " that P. H. Wylie, writing in the June, 1953 MODEL RAILWAY NEWS, would so much like to see ! The secret of such a motor is its ability to maintain a constant armature speed for a given applied






THE PITTMAN DC. 60 MOTOR

PITTMAN MOTOR SPECIFICATIONS AND PERFORMANCE

| DC. 60 | SPECIFICATIONS | DC. 71 |
|---|---|---|
| 5 | Number of armature slots | 5 |
| 0.531 in. | Diameter of armature | 0.625 in. |
| Silicon steel | Laminations material | Silicon steel |
| 96 | Number of turns per coil (Lap wound, series connected) | 96 |
| No. 34 B. & S. | Gauge of wire | No. 33 B. & S. |
| HF | Thickness of " Formex " insu- | HF |
| Armco magnetic ingot iron | Pole piece material [lation | Armco magnetic ingot iron |
| 3/32 in. | Thickness of pole pieces | 3/32 in. |
| 0.0157 in. | Air gap | 0.0156 in. |
| Alnico No. 6 | Magnet | Alnico No. 2 |
| | PERFORMANCE | |
| 13,000 r.p.m. | No load speed at 12 V | 12,500 r.p.m. |
| 0.3 amps. | No load current at 12 V | 0.25 amps. |
| 10,000 r.p.m. | Recommended operating speed | 9,000 r.p.m. |
| 0.002 h.p. | Output at recommended operating speed | 0.005 h.p. |
| 0.6 amps. | Current at recommended operating speed | 0.8 amps. |
| 0.8 amps. | Maximum safe current | 1.0 amps. |

For main dimensions see sketches.

*Note* : No. 33 B. & S. wire = 0.0071 in. = No. 37 S.W.G. (nearly).
No. 34 B. & S. wire = 0.0063 in. = No. 38 S.W.G. (nearly).
Formex " HF " insulation is equivalent to Lumex " M," as supplied by London Electric Wire Co. & Smiths Ltd., 24, Queen Anne's Gate, London, S.W.1.

voltage, regardless of wide fluctuations of load, particularly when the voltage, and hence the armature speed, is low. The higher the armature speed, the less the effect of load variations, but the use of a low gear reduction to give a slow track speed is undesirable for the reasons mentioned earlier.

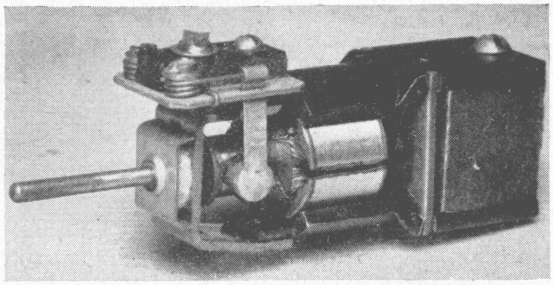
Incidentally, a worm gear reduction of 40 : 1 seems to be the lowest practicable for use with 18 mm. wheels. Any lower reduction using a small diameter worm wheel causes such frictional losses as to be of no advantage from a slow running point of view. (A properly cut 30 : 1 worm set will give better slow running than some of the 40 : 1 gears at present on the market). Spur gearing provides a satisfactory means of utilising a high-speed armature, as evidence by the satisfactory slow operating speeds of Riedmere and Bond chassis. The noise and constantly necessary attention to lubrication, however, are objectionable features not found in properly designed worm drives. I believe that an all Tufnol spur drive, as suggested by E. S. Peters in the May, 1953 issue, would largely overcome both these objections.

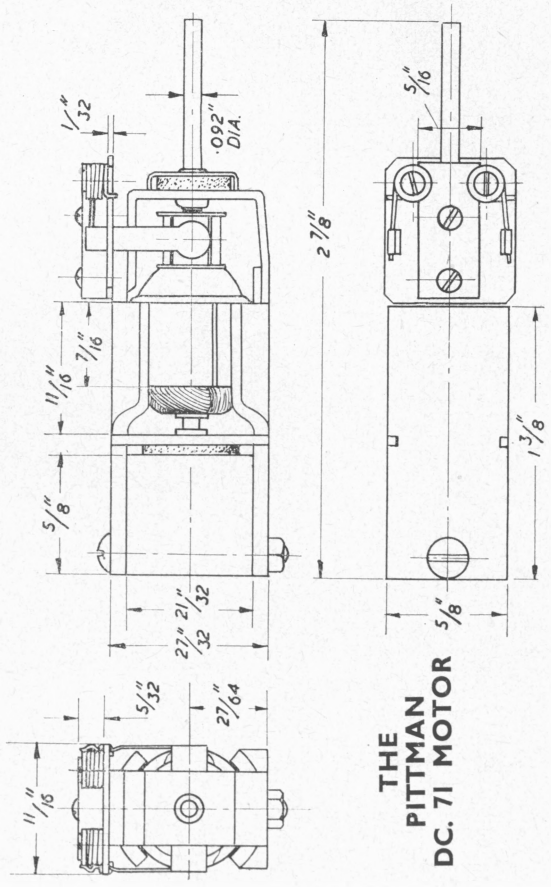
A flywheel mounted on the armature shaft will improve the slow speed running of any motor by smoothing out momentary load and voltage variations caused by bad rail joints, poor alignment and bad electrical contact, but will not enable the motor to develop more power at slow speed than it can without it.

The excellent torque developed at low armature revolutions by the Pittman and Lindsay motors is probably due to the extremely dense magnetic field, combined with low resistance armature windings and the low electrical resistance of the brush gear. The brushes are so large, and so tightly sprung to the commutator, that it is not possible to spin the armature shaft with the fingers for more than one or two revolutions. With the brushes removed the field applies quite a considerable drag to the free spinning of the armature—a feature not noticeable with British motors of comparable size. These dense field motors will not start at a voltage much below three, but once in motion, a considerable additional load must be applied to stall them. They do not start or stop quite so slowly or smoothly as does a motor with a less dense field, and consequently require more careful handling of the controller when starting and stoping. Moreover, a flywheel large enough to overcome the mechanical and electrical inertia of these motors would not be practicable. Even so, this disadvantage is more than offset by the reliable and constant slow speed running.

It will be noted that, so far, nothing has been said regarding the maximum power output of the motor. This is mainly a matter of the current the armature windings and brush gear can stand without overheating, which, together with the field strength, is controlled by the dimensions of armature and magnet. It is fundamental that a small increase in armature diameter greatly increases the power available. The difference between the DC. 60 and DC. 71 motors in this respect should be noted. (See data table).

The point seems to be that, provided the field strength is sufficiently dense, even a small and *relatively* low-power motor can produce a torque, satisfactory for smaller loads, at low armature speeds. The performance of the small Lindsay motor bears this out. It is inter-

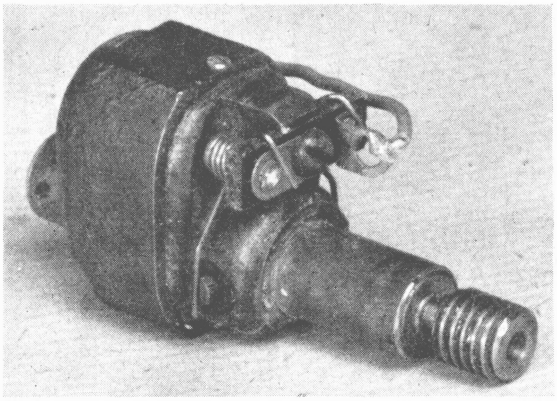


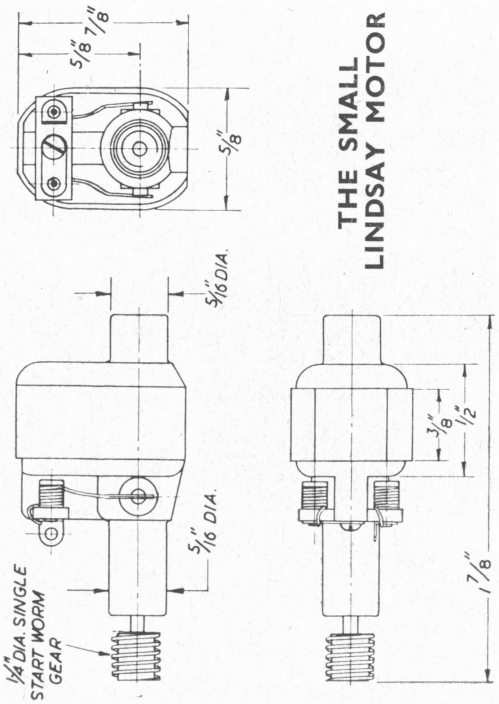



THE PITTMAN DC. 71 MOTOR

esting to note that M. H. Cox has noted the effect of a weak field while experimenting with field-wound motors, as he explains in the May, 1953 MODEL RAILWAY NEWS.

With regard to the size of the Pittman motors, study of the drawings will show that the DC. 60 easily fits between 16.5 mm. gauge wheels, as will the front portion of the DC. 71. As they stand, the DC. 60 will fit most modern types of British locomotives built to 4 mm. scale, while the DC. 71 can be accommodated in the firebox and part of the cab of 4-6-2 types. It should be remembered that American prototype locomotives, although larger than our own, are approximately the same size in 3.5 mm. scale as British types in 4 mm. scale. Neither of these Pittman motors are mounted in tenders in any commercial kits in America. The only tender drive is in the Mantua " General " 4-4-0 with a Mantua DC. 60 motor, which is slightly smaller than the Pittman DC. 60.






Apart altogether from performance, the Pittman motors are outstanding, because they are able to run for many hours without attention of any kind. Surely this is the ideal from the users point of view ? All wearing parts are easily replaced, and production control is such that every motor is identical and all parts interchangeable. (Legacy from Mr. Ford !) They have, in fact, been *designed* for quantity production, ease of maintenance and performance.

A final word on the methods of assessing the merits of different motors: It should be obvious that to compare the performance of one motor with another they should both be operating under exactly similar conditions. Gears should be of the same ratio, driving wheels same diameter, locomotives same type and weight. They must haul the same trains over the same track and for the same period of time, preferably over several months at least. Only then can the real qualities be judged.

After long experience of almost every type of commercial " OO " motor made since 1930, my opinion is that there never have been better designed or more carefully manufactured motors suitable for " OO " gauge than the Pittman DC. 60 and DC. 71 motors. I repeat; the majority of British " OO " model railwaymen don't know what they are missing and it's high time British manufacturers produced something as good !

Yours faithfully,

London, N.W.3. FLEETWOOD SHAWE.

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DEAR SIR,—I am connected with the Mantua Metal Products and I operate my own model railway in 4-mm. scale to Great Western and L.M.S. prototype practice ; your magazine is therefore a " must " to me. I like the general make-up and editing of " M.R.N." ; it is very informative to one who cannot take a walk and see the railway he is modelling.

The praising of our Mantua mechs and Pittman motors as being superior to British products amuses me because for smooth running and control, your Romford Mark IV, or Graham Farish's complete locos are the equal of or superior to what is made over here. We do have more drawbar pull ; but our motors are larger because our prototypes are larger and, even in 3.5 mm. scale, allow more room. But why have excess hauling power where it exceeds the proportions of our layout ?

The 3-pole motor Mr. Kershaw of Manchester uses in his K.M.R., L.M.S. compound kit is also a smooth starting running mechanism, and his kit is a nicely engineered piece of merchandise.

A word on my system of control may help to explain the smooth, slow starts that are obtained. My control resistances have their " off " position at the high-speed end of the resistance instead of the conventional slow-speed end, so that, in starting, the motor receives full power for an instant while swinging the knob to a low starting position. This breaks the inertia and allows the loco to move off at a crawl.

If I am shunting and using the reversing switch and leaving the control at a constant setting, the inertia of the motor is broken by a " hot shot " button which is connected across the resistance of the controller, so as to cut it out momentarily. This is especially effective on Graham Farish locos and the Pittman DC. 71, as they both have strong magnetic fields.

In my new house here, I am starting construction on a strictly British " OO "-gauge layout, and I believe that it will be interesting to some of our guests from the Mantua plant to come and see something different : 99.44 per cent. of our model railroaders in U.S.A. don't realise that our hobby got its real start in Britain.

Yours faithfully,

New Jersey, U.S.A. FRANCIS RODBARD.

# Layout PAGE

**Send in YOUR contribution to LAYOUT PAGE. Drawings, preferably to 1-in. scale, can be for any area or any gauge, and should be accompanied by a short description of the design and operation of the layout. All designs published will be paid for at our usual rate of 2 guineas per page**

HERE is an example of minimum space modelling in "OO" gauge. Curves are small but as large as possible for such an overall size.

The basic idea consists of a low-level continuous circuit having a through station with terminal facilities, plus a high-level terminus. This arrangement is not new, but is a good one and offers plenty of scope for main-line running and shunting. One idea behind the scheme is that, if required, the low-level circuit could be built first, the high-level tracks being put in later, so giving some variety of work and pleasure, at the same time providing a continuous testing ground at an early stage.

Obviously, only small branch line type engines and stock would be suitable for such a small layout with sharp curves; the platforms shown could take a three or four coach train.

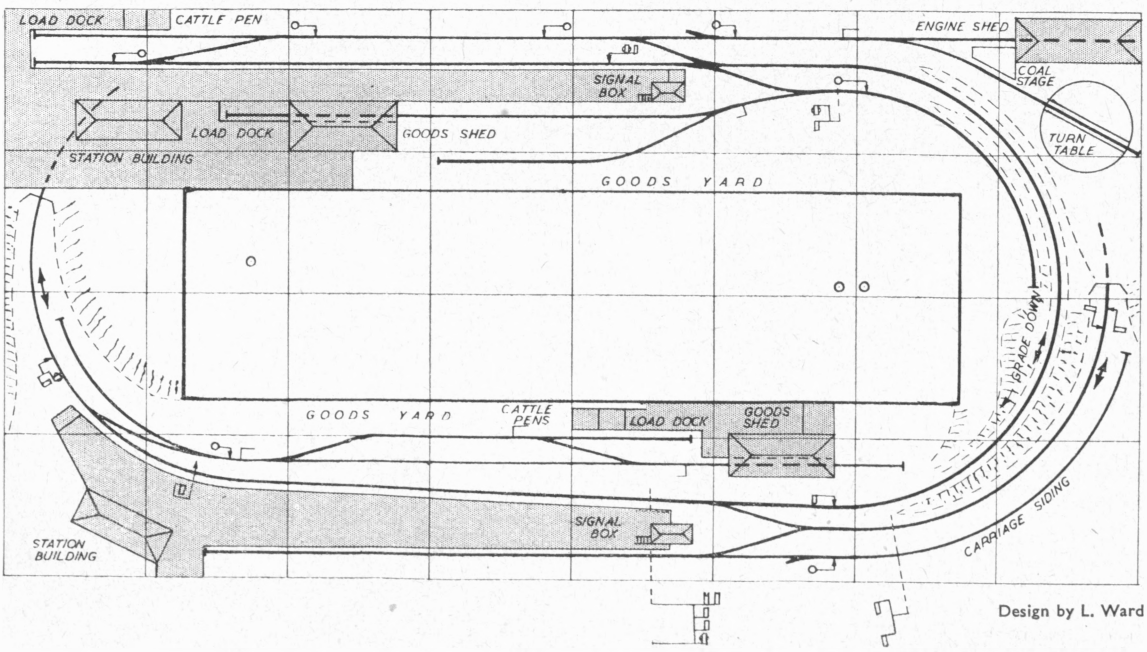
In operating the layout, it would be necessary to hold a station pilot at the through station, so that trains arriving at the bay can be worked back to the high-level station, so releasing the first train engine.

Signalling is not too complicated and should cover all the usual movements.

The space inside the layout has been left for control and should be adequate provided the operator is one of the slim types! If operating space is available outside the layout, however, the centre can be filled in and usefully employed for scenery.

Some of the pointwork may be somewhat tricky, but this all adds to the interest of construction and operation—a few legitimate speed restrictions all help to avoid monotonous running and, anyway, full-size practice isn't all made up of straight and easy turnouts! The double slip at the terminal has been put in to save space and to accommodate a longer platform.

For "OO" gauge, each square on the plan equals one square foot and the minimum main-line curve is 18 in. radius.




Design by L. Ward

# RAILWAY TOPICS

BY I. N. MASKELYNE, A.I.LOCO.E.

## NEW B.R. STANDARD 2-6-2T LOCOMOTIVE

I AM indebted to the Railway Executive for the drawing and photograph of one of a new class of mixed traffic tank engine, numbered from 84000, recently completed at Crewe Works. This order consists of 20 engines, and they are to work on the London Midland Region of British Railways on branch line passenger work of the type worked up to now by the old 2-4-2 and 0-4-4T engines of pre-grouping design. The new locomotive has been designed under the overall direction of Mr. R. A. Riddles, Member for Mechanical and Electrical Engineering, Railway Executive. The "parent" office for the design is Derby, but component parts have been also designed at Swindon, Brighton and Doncaster.

Though the smallest tank engine to be built in British Railways standard range of 12 types, it incorporates, as far as practicable, all the modern developments in design which have proved themselves on larger types. These have for their aim the reduction in time required at the running sheds for the preparation and disposal of the engines before and after their journeys, and the maximum mileage between shop overhauls. A rocking grate with self-emptying ashpan has been fitted, and a self-cleaning smokebox. Soft grease lubrication is widely used, nipples being grouped into readily accessible groups.

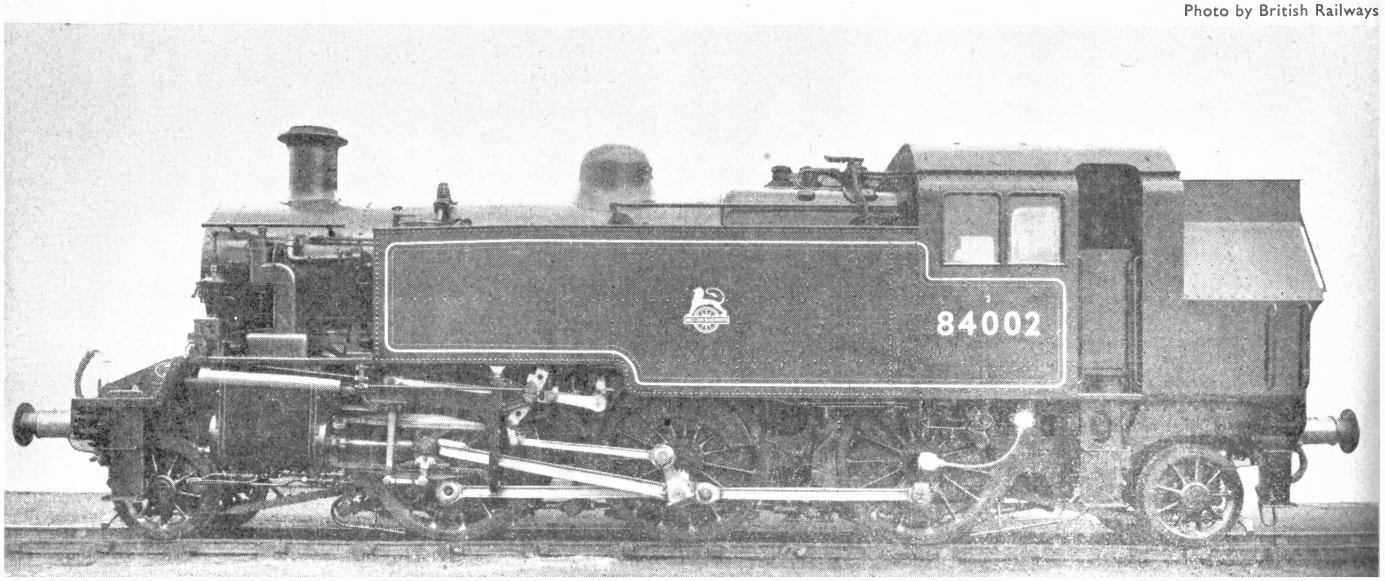
The boiler is interchangeable with that used on the standard Class 2, 2-6-0 tender engine, and is generally similar to that used on the Class 2, 2-6-0 and 2-6-2 engines of ex L.M.S. design. The barrel consists of two rings of carbon steel plate, the second being tapered equally at top and bottom. The outside diameter increases from 4 ft. 3 in. at the front ring to 4 ft. 8 in. at the firebox end. The Belpaire firebox is 5 ft. 11 in. long and 4 ft. $0\frac{7}{16}$ in. wide outside, giving a grate area of 17.5 sq. ft. All water space stays are of monel metal, nutted inside the firebox, while the roof, longitudinal and transverse stays are of steel.

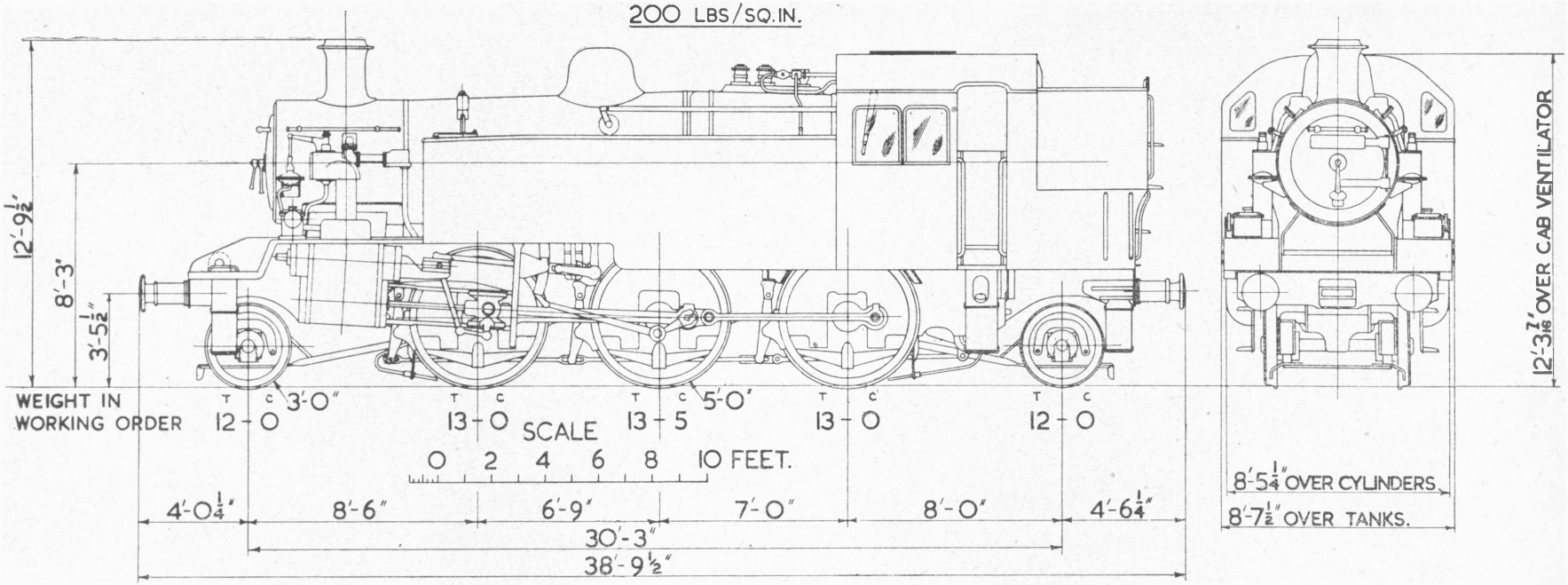
The relatively large dome contains a vertical grid-type regulator of normal two-valve design, operated from the cab by external pull rod and a transverse shaft entering the barrel at the base of the dome.

As far as possible all boiler fittings are standard with those used on other B.R. standard locomotive types. The main steam manifold is placed on the top of the firebox outside the cab, and carries all the separate steam valves for fittings ; it is provided with a main shut-off valve also operated from inside the cab. Separate top feed clack valves are provided, mounted on the front barrel at 30 deg. each side of the vertical centre line, discharging the delivery from two 8 mm. live steam injectors on to a tray deflecting the water away from the tubes to the sides of the barrel. Both injectors are mounted below the cab on the r.h. (fireman's) side.

A blowdown valve for discharge of sludge is fitted to the front of the firebox, and is manually operated from ground level.

Photo by British Railways






| | |
|---|---|
| BOILER BARREL DIAMETER (OUTSIDE) | 4'-3" INCREASING TO 4'-8" |
| FIREBOX (OUTSIDE) | 5'-11" LONG x 4'-0 7/16" WIDE |
| TUBES | 12 LARGE 5⅛" O.D. x 7 S.W.G. |
| | 162 SMALL 1⅝" O.D. x 12 SWG |
| SUPERHEATER ELEMENTS | 1⅜" O.D. |
| LENGTH BETWEEN TUBEPLATES | 10'-10½" |
| HEATING SURFACES:- TUBES | 924 SQ. FT. |
| FIREBOX | 101 SQ. FT. |
| TOTAL EVAPORATIVE | 1,025 SQ. FT. |
| SUPERHEATER | 134 SQ. FT. |
| FREE FLUE AREA | 2·77 SQ. FT. |
| GRATE AREA | 17·5 SQ. FT. |

| | |
|---|---|
| CYLINDERS (TWO) | 16½" DIA. x 24" STROKE |
| TRACTIVE EFFORT | 18,513 LBS |
| ADHESION FACTOR | 4·7 |
| BRAKE % | 48 |
| MINIMUM RADIUS CURVE (WITH SPECIFIED GAUGE WIDENING) | 4 CHAINS |
| BOILER TYPE | B.R. 8 |

| WEIGHTS | FULL T C | EMPTY T C |
|---|---|---|
| ENGINE | 63-5 | 50-8 |

WATER 1,350 GALLS.
COAL 3 TONS

# STANDARD CLASS 2. 2-6-2 TANK ENGINE.

WITH VACUUM CONTROL TO REGULATOR.

## 2 Single Lines and Ovals

# LINKED-SECTION CONTROL

by L. E. Carroll

IN Part I of this article I discussed the general principles of linked-section control, and illustrated its application to a simple end-to-end double-track layout. In Part II, I shall deal with its adaptation to two other basic forms of layout—the single-track end-to-end line and the oval—whilst in Part III, I propose to cover the treatment of main line junctions and return loops and in Part IV to give some notes on the practical side of the wiring.

For each basic track-formation I shall give diagrams similar to those in Part I, but they will henceforward show only one particular setting of the signals. Those who are interested in any special diagram should make an indelible tracing from it and then, armed with pencil and rubber, try out the various other settings for themselves. The diagrams have been arranged so that in every case a switch arm is shown horizontal when its actuating signal is "on" and inclined upwards when the signal is "off." In designating signals a simple code embodying the following letters has been used :—

| | | | | | |
|---|---|---|---|---|---|
| *D* | down | *U* | up | *A* | advanced |
| *H* | home | *S* | starter | *O* | outer |
| *M* | main | *B* | branch | | |

The diagrams will be generally drawn as for 2-rail, but of course the same—or simpler—arrangements would apply to 3-rail or stud-contact. I have assumed that individual supply or split-potential will be used, since on a layout involving a number of switches the wiring is thereby greatly simplified. For single supply one would have to double-up the switches and feed wires throughout.

### Single Lines

The block section working described for double track may be—and in some places is—also used for single lines. The switchgear required for section-linking a two-way single line is—perhaps unexpectedly—actually simpler than for a double track. In the first place, since our block-post stations will normally have passing loops, we can isolate a train in the station by means of the points instead of the signals. This enables us to run a direct feed to the station on link (*b*). In the second place we do not need to provide for the block-section ahead to remain on our own controller on all links except (*d*). Indeed, we have to arrange, deliberately, for the two adjacent block-sections to be linked, as required, to our own controller or to either of the neighbouring ones.

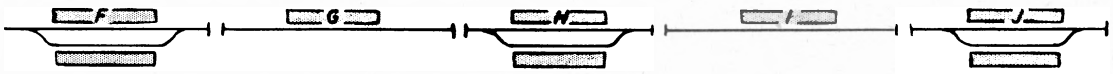



FIG. 5. TYPICAL SINGLE LINE

To make this clearer let us now take a look at Figs. 5 and 6. The former shows a simplified single line layout comprising two termini, *F* and *J;* an intermediate block-post station *H*, with passing loop; and two halts, *G* and *I*. Either halt could, of course, be omitted without affecting the wiring in the least. Fig. 6 shows in detail the switchgear required at *F* and *H*, *J* being merely a replica of *F*.

The terminal wiring is arranged to permit the following links with the four possible signal settings :

(*a*) *Home off, starter on.* *F* linked to *G*, for accepting up trains on *H* controller.

(*b*) *Home and Starter on.* *F* linked to *F* controller, for local shunting.

(*c*) *Home on, starter off.* *F* and *G* linked to *F*, for dispatching down trains.

(*d*) *Home and starter off.* A false setting which merely links *F* to *G*, as in link (*a*). Notice that the interposition of the home switch *FH* in the starter circuit prevents the threatened "short" between *F* and *H* controllers.

At station *H* it will be best for the two points to be operated simultaneously by one lever. Independent movement would be needed only if it were desired that two trains should arrive or depart at the same time. But as the former is contrary to proto-

NOTE: In Fig. 2 (Part 1, p. 192, MODEL RAILWAY NEWS, September, 1953) the free terminal of switch *H* should have been linked to the feed wire to section $A^2$.

type regulations and the latter impracticable on our single controller, we can happily dispense with the added complication. One other thing : we should place the section break far enough beyond the points to allow a loco and two or three vans to draw ahead of them without entering the next electrical section. An unswitched shunt arm below the starter would cover this movement.

The standard signal settings at an intermediate block-post enable an operator on setting up link

(*a*) to accept a train from either direction on the dispatcher's controller by pulling off the appropriate home signal (at the same time, if need be, holding a train on the other track.)

(*b*) to carry out shunting or running-round in his station without affecting the adjacent block-section.

(*c*) to dispatch a train in either direction on his own controller (still holding another on the other track if required), and to drive it all the way to its next booked stop by getting " line clear " and favourable signals in the usual manner.

(*d*) to pass " through " trains or, by pulling of all signals, to close the box, leaving the loop set to the platform where the principal offices are. Sections *G*, *H* and *I* would then be linked into one section, isolated from the *H* controller but capable of being linked to *F* and *J*.

With box *H* closed either " *F* " or " *J* " can secure control of the entire line as far as the last home signal merely by pulling off his starter. Single-handed operation from *F* is quite feasible, but unless *J* were within easy reach of *F* it would be necessary to have remote control of the *J* home and starter. Naturally, as in other sectioning schemes, auto-uncouplers and the remote control of the two points would be needed for running-round trains at *J*.

The only source of potential short-circuits is the pulling-off of the starter at one box while that at the box ahead is also off for a train in the opposite direction (!), thus linking the same piece of track to two controllers. Simple electrical interlocking would prevent this, but I doubt if it is worth while, because :—

(i) the operator at *H* should not pull off his starter until receiving " line clear " from *F*.

(ii) " *H* " would not ask for " line clear " if he had just given it to " *F* " himself.

(iii) " *F* " would hardly pull off his starter if he had just given a " line clear " to " *H*."

(iv) Even if the starter *were* off, the pulling off of his home signal for " *H*'s " train would, as already shown in the terminal wiring, nullify the effect of his starter.

(v) If the " short " did occur the overload cut-out would trip and draw immediate attention to the error.

The interlocking of certain points and signals at *H* could easily be arranged, but as the possible errors are not serious it is hardly worth troubling about—especially as it would impede the closing of the box.

Fig 5, of course, shows only the bare bones of the layout ; extra platforms can be added to termini, and extra sidings to any stations, without affecting the signal-box wiring at all.

**Ovals**

Having now covered the basic principles as applied to both double and single track, let us now try them out in relation to one of the most common types of layout, the oval. This formation has come, of late, to be somewhat despised as a layout form, but it certainly has advantages for exhibition and testing purposes, and it does allow a good length of run in a small space. Moreover, it cannot be denied that the oval has prototypes in real practice, though perhaps with rather more numerous stations. It has, however, the great failing that it is apt to pall rather sooner than a more realistic line. That is where section-linking is of help, giving each operator a real twofold task and introducing signals that are an integral part of the operational, as well as the scenic, side of the layout.

It is just possible to run block signalling—and hence linked-section control—on an oval with only two block-posts (as was done on the Gainsborough M.R.S. track at the Kings Cross Centenary Exhibition), but this does mean receiving your up trains back again from the same box to which you have just passed them on—and the same applies to your down trains. The use of bell code could disguise this shortcoming, and some sort of scenic break between the two halves of the oval would also help, but the addition of a third block-post would be much better.

Fig. 7 shows a small two-station single track oval. The main line is the absolute minimum, but the addition of goods and carriage sidings (which do not complicate the sectioning) enables quite varied and interesting running to be obtained. Two trains can be operated at once on the main line, and they can be

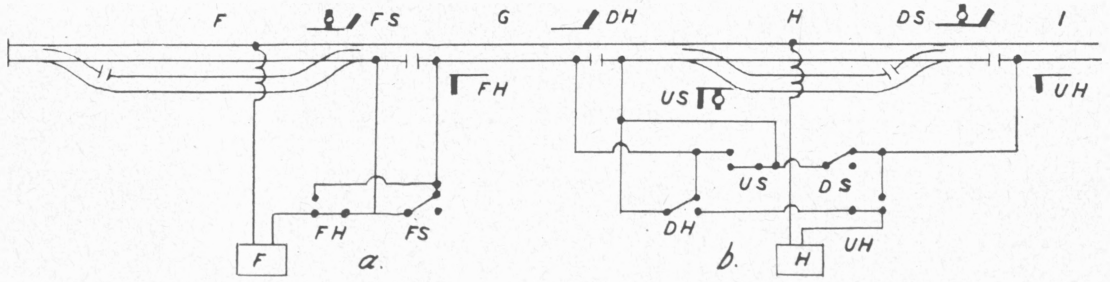



FIG. 6. SINGLE LINE WIRING

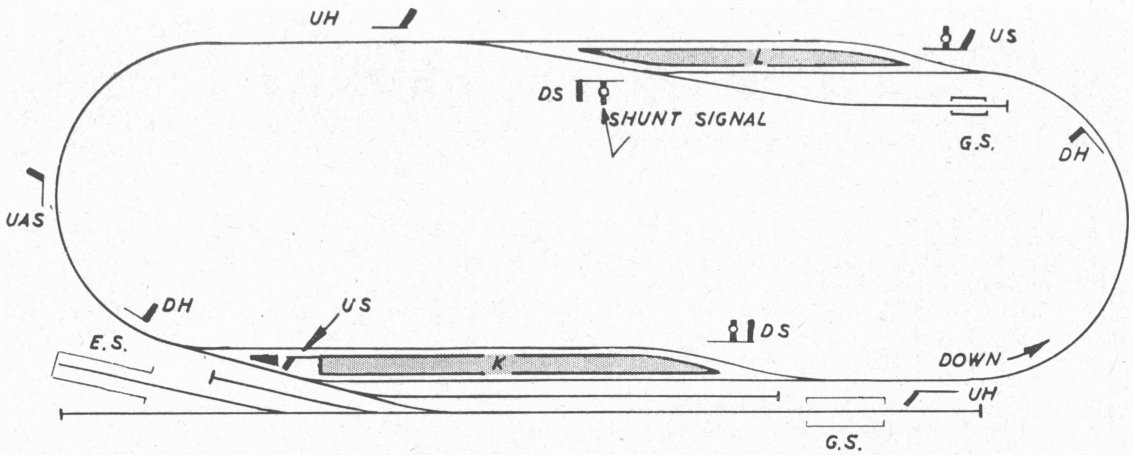



FIG. 7. SINGLE LINE OVAL

terminated at either station. At *K*, the principal station, either up or down trains can be reversed or taken out of service, whilst at *L* odd wagons can be dropped or picked up, and local trains reversed.

On such a small layout realistic time-table operation will not be achieved unless all trains stop at

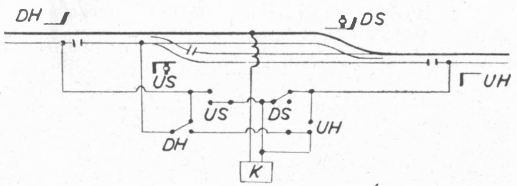



FIG 8. WIRING FOR OVAL MAIN STATION (COMPARE FIG 6b)

both stations on each journey, but nevertheless continuous running is bound to be needed at times for testing, or for amusing the uninitiated who can see no interest in proper working because it looks so slow. But if, using the wiring given in Fig. 6, we were merely to set up link (*d*) at both stations, we should have an "After you Cecil" state of affairs—a floating chain of control with no connection to either controller. To overcome this snag we must make a slight change in the wiring at the principal station, from which any single-handed operation will be carried out. As shown in Fig. 8, the feeds through the starter signal switches are connected not to the station feed as usual, but direct to the controller, thus anchoring the "floating chain" to the principal controller when either starter is pulled off.

For single-handed operation, the box at the smaller station is closed in the usual manner, and—given remote control of the three points, and three auto-uncouplers—the normal service could still be run without leaving one's seat. The shunting possibilities of station *K* would also greatly add to the interest.

Since up to 3 ft. of track to the left of the yard points at *K* will be needed for shunting purposes it will be advisable to instal an advanced starter, and we can use this instead of the starter for operating the switch. The starter itself would be operated from a separate lever, but interlocked so that it would not clear unless the yard point was normal. Note that the advanced starter technique for single-line is different from that for double-track owing to the fact that all siding points are now brought within station limits.

A double-track oval could be operated in a very similar fashion, and here the short headway permitted on double track would be of great help on a small layout. The wiring and sectioning would be on the lines of Figs. 1 and 3 in Part I, but with the modification given by Fig. 8 to permit continuous running. Crossovers would, of course, be needed, but as both tracks at any station can be brought simultaneously on to the controller there, no complication arises.

To the basic track forms so far dealt with we can naturally add branch lines, and the treatment required for operating these and the necessary main-line junctions will be the next object of our attention.

(*To be continued*)

## FOR THE BOOKSHELF

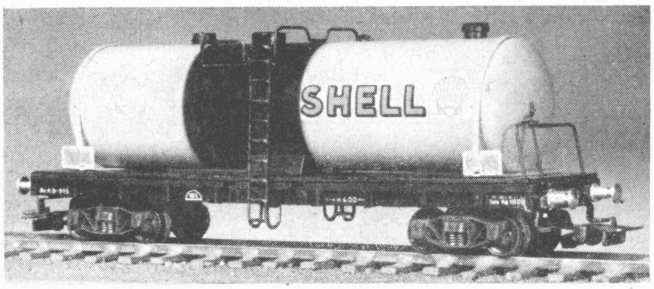
**Titled Trains of Great Britain,** by Cecil J. Allen. (Hampton Court: Ian Allan Ltd.). 224 pages, size 5½ in. by 7⅛ in. Price 15s. net.

First published in 1946, this book has now reached its third edition. Seven years ago, there were but 70 titled trains to describe; in 1947, the number had increased to 97, while in 1953 it is 108. Consequently, this book has grown to its present size in three distinct stages

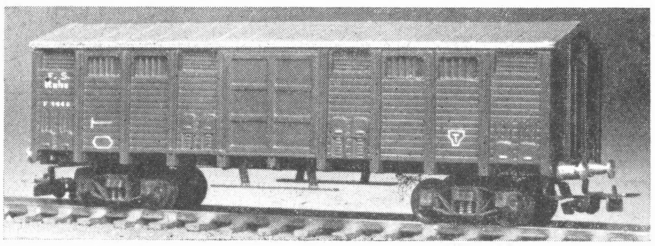
A coloured frontispiece depicting the "Golden Arrow," hauled by the B.R. Pacific engine *William Shakespeare*, at Chelsfield adds a welcome illustration to the large number of halftones printed on art-paper inserts.

Mr. Allen's descriptions are always interesting to read, and in many cases, he gives particulars of high-speed work performed by well-known trains. The book is a valuable addition to popular railway literature.

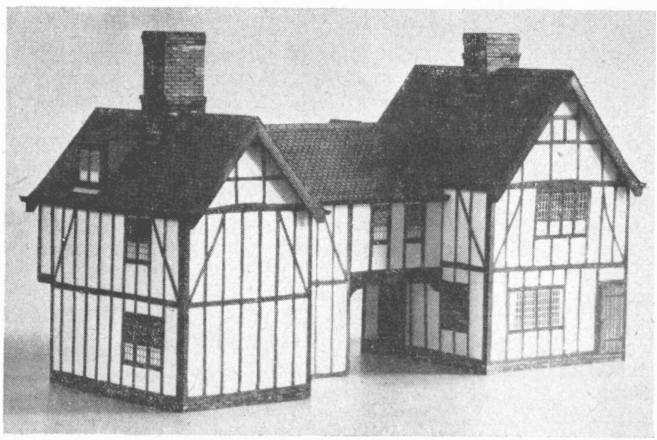
# Talking Shop




*The Rivarossi bogie petrol wagon*



*The Rivarossi bogie goods van*



*A new Bilteezi sheet from Hamblings*

FOR the first time, the " Model Engineer " Exhibition, held in August, included a stand from BRADSHAW MODEL PRODUCTS of Hove. Most of the items listed in their new catalogue were obtainable on the spot and a special feature was made of the Rivarossi trains, distributed in England by this company. Latest additions to this range include a " Shell " bogie petrol wagon, price 39s. 11d., and a bogie goods wagon, price 35s., both of which are illustrated alongside. These Continental wagons have spring buffers and the detail work and general proportions are excellent. They are to " HO " gauge, will run on 16.5 mm. track to B.R.M.S.B. standards and the 2-rail bogies are equalised and sprung, giving smooth running and unusual track-holding qualities. The Southern Pacific R.R. " Atlantic " locomotive is another Rivarossi model which has recently become available at £9 6s. 8d.

Talking of Continental stock, Bradshaws have a limited supply of good quality " HO " gauge 3-rail Wagon-Lits coaches of French manufacture at 35s. each. Don't forget the B.M.P. platform truck kit. This costs only 1s. and comprises a set of castings and parts with plenty of scope for practice filing and assembly work.

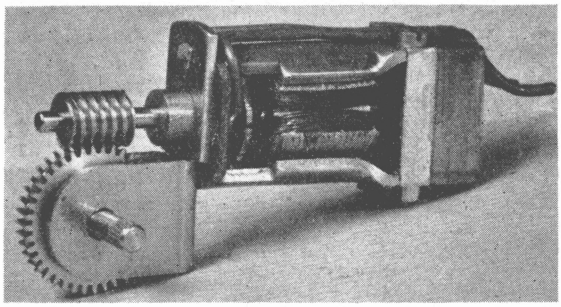
The main feature of HAMBLINGS' stand was a section of 16.5 mm. 2-rail track including all the " awkward " points, wired up conspicuously to show modellers that 2-rail pointwork is not the complicated thing some people imagine. A new " Bilteezi " sheet in Series D was on display, price 2s. This sheet makes up into an attractive half-timbered Elizabethan country house which alternatively can be assembled as a country hotel complete with the covered passageway to the courtyard for the coach and horses. This version is illustrated in the bottom picture. " Bilteezi " sheets are lithographed in up to eight colours and provide a realistic and economical answer for the enthusiast who likes to have somewhere for his model population to live.

WALKERS & HOLTZAPFFEL displayed their usual comprehensive selection of constructional parts for " O " and " OO " gauges as well as a number of completed locomotive models. The Romford motors were on show once more and frequent demonstrations of the " O " gauge controlled clockwork mechanism were given to illustrate the range of speeds obtainable. Lengths of " OO " track showed how the W. & H. combined sleepers and chairs could be economically used by

spacing them about 2 in. apart and introducing cardboard sleepers in between. The new Exley six and four-wheel coaches in " O " gauge were obtainable from this stand, available in the colours of the four grouped companies. A new edition of the Walkers & Holtzapffel catalogue is now ready, price 6d.

**GEM Catalogue**

The latest catalogue from GEORGE E. MELLOR of 31a Rhos Road, Rhos-on-Sea, N. Wales costs 1s. and has 32 pages and cover, size $8\frac{3}{4}$ in. $\times$ $5\frac{1}{2}$ in. and contains illustrated details of many " OO " gauge parts and accessories. It makes useful reference for all " OO " modellers.



*The Tri-ang Super Twelve motor*

**" OO " Motor for 6s. 6d.**

ALLAN BRETT CANNON LTD., of 32, Railway Approach, London Bridge, S.E.1, have acquired a large, but limited supply of the Tri-ang Super Twelve 12 V, d.c. electric motor used in the early batches of the Rovex locomotives. These motors are brand new, machine assembled and boxed. The photograph reproduced herewith shows that it is similar to the X3, having a 3-pole armature, and disc commutator. The worm and wheel has a 40 : 1 reduction and the smallest driving wheel which can be used is 18 mm. The knurled axle can be pressed out, after removing the knurling from one end, and replaced by other types if desired. The fact that this is a mass-produced motor, now replaced by a later design and therefore surplus to manufacturers' requirements, explains the amazing price of 6s. 6d. at which it is offered. Post orders should contain a remittance of 7s. to cover packing and postage.

This is a good opportunity for modellers with shallow pockets to obtain a useful general purpose motor which, for instance, might well form the basis of an interesting rebuild. But when stocks are exhausted there will be no more; so if you want a cheap motor you know where to go.

**A New " OF " Chair**

HALFONE MODELS CO., of 8, Methuen Street, Manchester, 12, announce the production of left and right-hand cast slide-on chairs (with key cast in place) for " OF " B.R.M.S.B. rail. The chairs retail at 2s. 11d. per 100, including purchase tax and normal packing will be in packets of 400 at 11s. 8d. net. The chairs will also be available through other trade firms. If a supply of material is forthcoming, the same company plan to produce " OF " B.R.M.S.B. rail in nickel-silver and brass.

**Ignorance is Bliss**

Here are a couple of true stories which just go to show what the general retailer has to put up with now and again. Seasoned modellers who know the ropes are apt to overlook the things that *can* happen when beginners, young or old, take the plunge—not that I wish to poke fun at the beginners; we all have to learn sometime—but it is as well to point out that the retailer more often than not bears the brunt of the " attack " with patience.

Imagine a medium-sized model shop, stocking all the proprietary systems and a fair range of scale parts. This is just the sort of shop where fathers come to equip their sons' railway—a valuable type of customer for the hobby because in time, given the right treatment, the son's taste will become more selective, even if father himself doesn't become a fully-fledged enthusiast.

The door opens and in comes a middle-aged smartly dressed and intelligent looking business man, who turns out to have rather a brusque manner.

" Good morning ! My son is extending his " O " gauge railway. I want some of those track bogies; er—wooden bogies."

" Wooden bogies ? " says the assistant, with raised eyebrows.

" Yes, you know, those little shoes that slide on the rail."

" Oh ! You mean chairs, sir. Yes, we have some of those. These are for standard ' O ' gauge rail."

The gentleman peers into the tray of parts.

" Oh ! These small metal things ? No, I don't mean those. I mean those sort of long wooden things that go underneath."

" Oh ! You mean sleepers, sir. These will be the right size."

Well, I don't quite know how that conversation ended, but I think the gentleman eventually left the shop quite satisfied with a package of " wooden track bogies " under his arm.

Next, the telephone rings. A few minutes later the assistant is talking to the manager.

" There's someone on the 'phone who bought a power unit here last week for his son's layout, but he says he wired up the mains to the secondary windings and had a bit of an explosion. Can we do anything for him ? He says the boy was broken-hearted."

I bet that's nothing to what the transformer was !

Guy J. Chesmore

Regarding the "A.B.C." advertisement on page ix, September M.R.N., one Rovex type point costs 15s. The figure 2 in the line "2 points for Rovex" should be deleted.

# "THE MODEL RAILWAY NEWS"
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**Staffordshire's Model Shop** since 1936. Model railwaymen always welcome. New "OO" layout.—J. W. BAGNALL, South Walls Road, Stafford. Tel.: 420. M.E.T.A.

**Transformers** for "direct" or "split potential." Rectifiers, auto cut-outs, ammeters, volt meters, reversing controllers, power units, large stocks. List s.a.e.—HARRY GILPIN, 76, High Street, Walton-on-Naze, Essex.

**Handyman's Shop,** 27, Blakey Moor, Blackburn. Agents for Acro, Peco, E.R.G., Walkers, Wrenns, Hamblings, etc. Hardboard strips (all sizes) for tracklaying.

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**8, Methuen Street, Manchester, 12.**

**British Model Railway Enthusiasts.** When in Paris book at Hotel Boucherat 110, Rue de Turenne. Single-rooms 750 Frs. Double rooms 1,000 Frs. French breakfast, service and taxes included. You will be able to see the models, km. 108, locomotives and wagons, which are the most realistic in France.

**Gauge "O" Electric.** Bassett L.M.S. "Duchess" and L.N.E.R. "Flying Scotsman," L.M.C. Southern 0-4-4 tank, L.M.S. 4-4-0 and 0-6-2 tank. Exley coaches—L.M.S. suburban and corridor, restaurant and sleeping cars, G.W. ocean mails and dining cars. All in perfect "as new" condition. Bassett and L.M.C. open wagons and covered vans. Bassett signals, telegraph poles, loading gauges, poster hoardings, cattle pen, water towers, plastic figures, station accessories. Rogersons centre-rail track and points. Shenphone power unit and controller. Splendid condition—very little used. Moving, reason for sale.—REV. H. E. STRUDWICK, "Rayleigh," Newport Road, Northwood, I.W.

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**American Magazine Subscriptions.** One year "Model Railroader," 39s., back numbers, 3s. 6d. (after June, 1952, 4s. 6d.). Free booklet quoting others.—WILLEN LTD., (Dept. 42), 101, Fleet Street, London, E.C.4.

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**Lionel "O" Locomotive,** smoke, whistle, three coaches, three wagons, 34 rails, etc. All perfect, £45.—SAW, 5, Llantwit Road, R.A.F., St. Athan, Glamorgan.

**Gauge "1" Electric for Sale.** Wooden wagons, 10s. to 30s.; 2-6-0 Mogul by Bassett-Lowke, £15; 4-4-2 G.N., £7; coaches by Mills and Bassett-Lowke, £2 and £3; station, £5; quantity of track.—Box No. 6941, MODEL RAILWAY NEWS Offices.

**"OO" 3-Rail Layout** for sale. 100' track, 27 points, 6 locomotives, 10 coaches, large power unit, etc., £35, o.n.o. S.A.E. for list.—CORDY, 29, Aldborough Road, Upminster, Essex.

**Sale.** "OO" 16.5 mm., 2 and 3-rail stock. Changed circumstances have caused portable layout to replace large permanent layout. Surplus equipment, rolling stock, for sale, including: 3-rail G.W.R. "Totnes Castle" (Hamblings), £6; Almost unused Exley G.W.R. corridor coaches (fitted Kennedy 3-rail bogies, 40s.; Unused Romford "Supermechs," 45s.; Unused GEM X-3 motor, 15s.; Zenith point setters, 5s.; Also spare Kennedy and other bogies, wheels, track parts (some 2-rail), loco parts, litho coaches, signal parts, electrical cut-outs, switches, relays, etc. Items sold separately. Money back guarantee. S.A.E. for list.—ROSS, 1, Dowling Road, Fifers Lane, Norwich.

**For Sale.** "Model Railway News," unbound, 1925-1952 incl.; "Model Railway Constructors," unbound, 1934-1952 incl.; "Model Railways and Locomotives," 1909-1918; "Railway Magazines," bound and unbound, 1924-1952; "Railways," unbound, 1942-1952. Details.—32, Cropthorne Road, Shirley, Birmingham.

**Torbay Model Railway Supplies.** Comprehensive stocks 1 mm. scale, Farish, Rovex.—59, Victoria Road, Ellacombe, Torquay.

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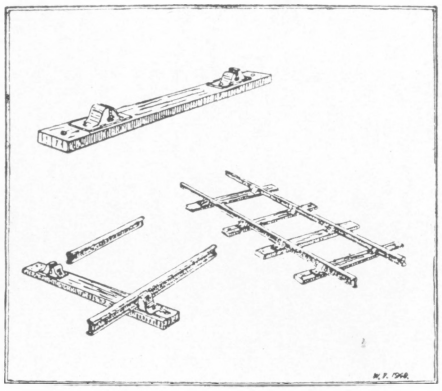

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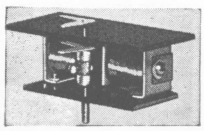

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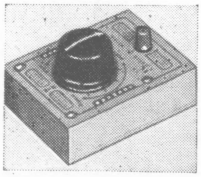

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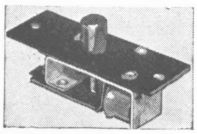

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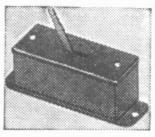

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